

## Rotech Laboratories

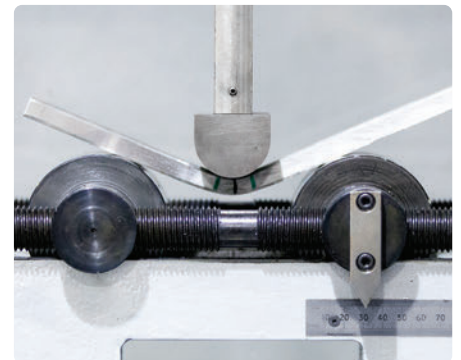
Rotech is a UKAS accredited metallurgical test laboratory to ISO 17025, fully equipped to meet most metallurgical testing needs. We offer extensive product and process knowledge from our highly qualified and experienced staff who are happy to give advice and support in a friendly approachable way.

Originally established in 1918 as an 'in-house' works laboratory to serve the needs of Rubery Owen, we have always held an enviable reputation for quality of results and expertise and we can help deliver the assurance and advice needed to validate processes through to final product quality assurance.

Our primary testing departments are analytical and corrosion science including chemical analysis, painted/plated finish salt spray and humidity testing, mechanical testing, weld testing and metallography including failure investigations.

**For full deals of all Rotech Laboratories Ltd services, please see overleaf.**

**ROTECH**  
LABORATORIES



### Manufacturing Areas Covered

- Aerospace • Architectural Ironmongery • Automotive and other transport sectors
- Communications and Electronics • Composites-project managing testing including C-Scan
- Construction • Consumer Products • Energy and Power-turbine and renewable energy generation • Fluid handling • Forgings & Machined Components • Foundry & Castings including secondary smelting • General Engineering • Heavy and Yellow Goods • Marine • Metal Finishing
- Metal Packaging • Metal Recycling • Motorsport • Office Equipment • Oil and Gas
- Petrochemical • Pressings & Fabrications • Rail • Security & Defence • Stockholding & Processing
- Trading Standards & the Legal profession • Welding and Fabrication • White Goods

# What can we do for you?

If you have requirements for any of the following tests, please contact us:

## Analytical and Corrosion Science

- Chemical analysis
- Painted or plated parts salt spray or humidity testing
- Paint, phosphate, electroplate and plastic coating testing and assessments
- Coating thickness, adhesion, coating weight and hardness testing
- Pitting and crevice corrosion testing to ASTM G48
- Intergranular corrosion tests (ICC) to ASTM G28 and ASTM A262 Practice A, C and E

## Mechanical Testing

- Tensile testing at room temperature or at elevated temperature
- Impact testing-Izod and Charpy to BS, BS EN ISO and ASTM from ambient down to -120°C and at -196°C. Determination of % shear and lateral expansion
- Hardness testing-Brinell, Vickers, Rockwell, Microhardness and Equotip (not UKAS accredited)
- Bend, Shear, compression/crush testing and torque (not UKAS accredited)
- Welding testing-procedures/welder qualification/production QC
- Fasteners-tensile/proof load/wedge head soundness/hardness surface and core/decarburisation tests

## Metallography

- Hydrogen embrittlement assessment
- Microstructure evaluation, phase distribution and defect assessments
- Inclusion content, grain size determination
- Graphite in cast irons-type/size/distribution
- Determination of heat treatment condition, case depth, decarburisation
- Ferrite content volume fraction
- Image analysis
- Weld assessments, macro examination/flow etch tests, photomicrographs

## Failure Investigations, SEM and EDS

- Failure Investigations of service fractures
- Production investigations and advice on manufacturing and process problems
- Scanning Electron Microscopy (SEM) for fracture surface analysis
- X-ray microanalysis of contaminants, small particles and constituents
- Conductive/non conductive materials identification down to Atomic No 5
- Assessment and analysis of corrosion products

## Composites-project managing testing including C-Scan

- Composite material characterisation, laminate panels, composite manufactured parts, assemblies, sub-assemblies

We can help with your product quality assurance requirements and typical items we test include:

Ingots, cast 'button' samples, cast test bars and keel blocks, castings, forgings, fasteners, flat rolled strip mill products including re rolled material, plate, pipe and tube, pressings and fabrications, welded pipeline components, fittings and flanges, automotive components and sub-assemblies, welding procedures and welder approval testing, aerospace components, architectural hardware, plated and painted products, machined/turned parts.

In fact we can test any metal product subjected to any manufacturing or finishing processes including heat treatment evaluation and assess effectiveness.

We also conduct testing for re-engineering projects.

Product liability legislation has increasing implications with more focus on global sourcing of metal manufactured products, often resulting in product quality not being under the direct control of the primary contractor, the purchaser or the distributor. We are able to work with you in partnership to give you added assurance and advice.

Should you need a failure investigation on any part to establish reason(s) for failure, we have considerable experience in this field. Our aim is not merely to list metallurgical 'failure mechanisms' but to use the data constructively and work with you to examine permanent corrective action to prevent a recurrence.

We understand NACE, PPAP, FMEA, 8D and the requirements for ISO 9001, ISO/TS 16949 and aerospace needs. We can provide product validation data by testing your prototype, pre-production and ongoing production parts for your continuing QA confidence.

